

## REMARKS

### *Status of the Application:*

Claims 1–32 are the claims of record of the application. Claims 1–32 have been rejected.

### *Interview held November 13, 2007*

The undersigned thanks the Examiner for the courtesy shown in the telephone interview held between the Examiner and the undersigned on November 13, 2007.

Discussed was the requirements made by the previous examiner for providing copies of such items cited in the Application. There was agreement to set aside the requirement for some of those items: textbooks and monographs cited for the purpose only of describing background information that would be known to one in the art. It was agreed that it would be burdensome both to the Office to review, and for Applicant to provide such a massive amount of information. It was agreed that Applicants would provide technical articles, but not the monographs or textbooks cited in the Application.

Also discussed during the Interview were the cited Bertsis and Schuetze art. The present invention was described, and compared to the art such as described in Bertsis.

It was agreed that 1) The cited art does not disclose the present invention, and 2) that Schuetze is not combinable with Bertsis, as it deals with a different problem and its teachings are not substitutable to any part of Bertsis.

### *Amendment to the Specification*

Applicants have amended the specification to correct a typographical error. No new matter is being added.

### *Amendment to the Claims:*

Applicants have amended the claims to correct the problems described in the objections, to correct some typographical errors, and to further and more clearly define the invention. No new features have been added to the claim set. For example, claim 2 has been amended to add a limitation similar to that of claim 3, and claim 3 has been cancelled. Therefore, no new search should be required.

Applicants also have amended the medium claims to more clearly define the invention as being for a computer-readable medium with computer executable code segments encoded thereon.

### *Cited Art Requirement*

Applicants have been instructed to provide certain articles of art that were cited in the specification and that the examiner has determined is reasonably necessary to the examination of this application.

In response to this requirement, Applicants have provided the articles, but not the requested cited art that is a textbook or a monograph. Because the textbooks and monographs are cited in the specification to point out to the reader than the cited subjects, e.g., voice synthesis, speech recognition, cluster analysis, comparing text strings, are all well known as demonstrated by the existence of whole texts in the field. The lists of books are not even comprehensive. It would be burdensome both for the Office to review this information, and for Applicant to provide such a massive amount of information. However, to satisfy the requirement, the surveys downloaded from the Web are provided.

An Information Disclosure Statement is included herewith.

The Office action stated that the fee and certification requirements of 37 CFR 1.97 are waived for those documents submitted in reply to this requirement.

### *Claim Objections*

In paragraph 2 of the office action, claims 3–17, 19–26, and 28–31 were objected to because of the use of the indefinite article in the preamble of dependent claims. Applicants have amended the claims to comply with the Office’s request.

The Examiner has pointed out that claims 3 and 8 are identical and depend from the same independent claim, and that claims 28 and 29 are identical and depend from the same independent claim. Claims 8 and 29 have been cancelled.

The objections are thus believed overcome.

### *Claim Rejections - 35 USC § 102 and 103*

In paragraph 4 of the office action, claims 2, 4, 6, 12–19, and 25–26 were rejected under 35 U.S.C. 102(b) as being anticipated by Berstis et al. (US 6,092,100), hereinafter Bertsis.

In paragraph 6 of the office action, claims 1, 3, 7–11, 20–24, and 27–32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berstis et al. (US 6,092,100) in view of Schuetze et al. (US 6,598,054), hereinafter Schuetze.

### *Comments on Bertsis:*

Bertsis, like the present invention, aims at resolving a possibly incorrectly entered URL. However, unlike the present invention, Bertsis is limited to dealing with string comparisons of characters. Bertsis finds candidate URLs by looking first locally at locally stored histories of recently visited URLs, or later, in a server, by searching using what Bertsis' calls a fuzzy search, a much larger database of most-recently used (MRU) URLs. Thus Berstis looks at a finite number of URLs by searching recently visited URLs. Berstis does not attempt to find ANY valid URL.

As Applicants assert in paragraph [0071] and in the Background, given the large number of valid URLs, in the order of  $10^{10}$ , it is not practical to run a comparison of the signature of the source URL with those of all possible URLs. Thus, one aspect of the invention is performing a hierarchical search using a clustering method.

Furthermore, ***Bertsis does not describe or disclose using a non-integer distance measure***. The Office cites col. 8, lines 1–18 of Bertsis as disclosing a non-integer distance. However, the Bertsis' ranking here is clearly an integer; it is an ordering of the candidates. What is disclosed is a rank that is a product of integer values. Therefore, this is not a non-integer value: Bertsis clearly states “multiplying the number of occurrences of the candidate URL times the number of pairs in which the candidate URL appears.” See also the table of rankings of FIG. 7D of Bertsis. Hence Bertsis teaches an integer method.

### *Comment on Mason*

Mason shares some similarities with Bertsis. In particular, Mason uses a tree matching method. This inherently implies enumeration and integer valued measures.

### *Comments on Schuetze and combining Schuetze with Bertsis*

Schuetze deals with a different problem. Document searching and cataloging. Each document—a much more complicated item than a URL or URL part—has multiple “modalities” e.g., text in the documents, pictures in the document, textual description of pictures determined by physical proximity to the picture, the URL of the document, the Inlinks (links pointing to the document), etc.

Schuetze defines a vector for each modality for a document. This is some template for determining how to characterize that modality for a document. Schuetze defines a usual measure (commonly used cosine distance) and then matches documents using cluster analysis.

In Schuetze's vector space model described, each text document (or any kind of document containing extractable text) is embedded by Schuetze into a vector space having  $n$ , dimensions, wherein each dimension is represented by a real number, where the dimensionality of the space is the total number of unique words in the collection.

Text modality is described with reference to FIG. 4 of Schuetze, which described an analysis of a textual document in terms of how frequently textual elements appear in the document. See col. 5, lines 50–65. Schuetze describes how to define a vector for text in terms of words in the text, and their frequency of use in the document. See col. 12 of Schuetze.

Schuetze does describe using the text feature for URLs at the bottom of col. 13. A vector is defined, with each URL part being forming a “word” that is element in the vector defining that modality. The vector element for a word is related to the frequency of used of the word. Because Schuetwze is interested in characterizing a chole document, of which the URL is a small part, the URL is inherently assumed to be correctly entered.

***Schuetze is not combinable with Bertsis such that Bertsis would work.***

Bertsis performs what Bertsis calls a fuzzy search (but against recently used URLs, not the universe of valid URLs) for PARTS of a URL. Schuetze's teaching does not help deal with such a search.

Since Bertsis deals with looking at erroneously entered URL parts, there is no way one can take Schuetze's teaching and use them to determine a correct URL part to arrive at a workable version of Bertsis, let alone what is claimed in Applicant's invention.

Schuetze does use cluster analysis, but for looking at complete documents, not for erroneously entered URL parts. Applicants do not claim inventing cluster analysis, and in fact state that cluster analysis is well known.

Looking at claim 2, there is no way to apply Schuetze to the element:

for any part of the accepted URL that is not valid:

determining a signature for the accepted URL part; and

conducting a fuzzy search for at least one valid URL part that is close to the invalid URL part according to a distance measure that combines at least one local measure, each measure suited for a particular type of URL part”

and end up with an operational system.

*Comment on amendments made:*

In order to make clear the invention, and not to overcome the rejections made in the prior office actions, Applicants have amended the claims to include, using claim 2 as a representative, the feature:

in the case the not-valid accepted URL part includes characters in a first space wherein a distance measure of closeness is integer-valued, the determining of the signature of the accepted URL part includes converting the first space into a second space such that the signature of the URL part is represented by one or more elements in the second space, the second space being a space wherein the distance measure for comparing signatures of URL parts is non-integer or a general distance function in a metric space, such that cluster analysis can be performed on signatures of valid URLs or URL parts,

and also the feature:

wherein at least one URL part includes one or more non-text non-numerical characters.

Applicants have argued that the cited art does not disclose or make obvious the claimed invention. In addition, the cited art does not disclose the features added by amendment.

For these reasons, and in view of the above amendment, this application is now considered to be in condition for allowance and such action is earnestly solicited.

### *Conclusion*

The Applicants believe all of Examiner's rejections have been overcome with respect to all remaining claims (as amended), and that the remaining claims are allowable. Action to that end is respectfully requested.

If the Examiner has any questions or comments that would advance the prosecution and allowance of this application, an email message to the undersigned at dov@inventek.com, or a telephone call to the undersigned at +1-510-547-3378 is requested.

Respectfully Submitted,

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Date

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